

**REMARKS**

Applicants appreciate the Examiner's thorough examination of this application and the allowance of claims 1, 3, and 5-10.

This is a full and timely response to the outstanding non-final Office Action mailed November 10, 2005. Upon entry of the amendments in this response, claims 1, 3, 5 – 10, and 17 – 20 remain pending. In particular, claims 1, 3, and 5 – 10 are allowed, while claims 17 – 20 stand rejected. Applicants amend claim 17. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

**I. Claim 17 is Patentable Over *Koyama* in view of *Chen* and *Walker*, Further in View of *Bao***

The Office Action indicates that claim 17 stands rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over U.S. Patent Number 5,388,092 ("*Koyama*") in view of U.S. Patent Number 6,256,383 ("*Chen*"), and U.S. Patent Number 5,467,394 ("*Walker*"), and further in view of U.S. Patent Number 6,526,093 ("*Bao*"). Applicants respectfully traverse this rejection for at least the reason that *Koyama* in view of *Chen* and *Walker*, and further in view of *Bao* fails to disclose, teach, or suggest all of the elements of claim 17. More specifically, claim 17, as amended, recites:

17. A digital signal transceiver, comprising:  
a transmitter configured to receive a locally generated transmit signal;  
a hybrid electrically coupled to the transmitter configured to receive and inductively couple the transmit signal to a two-wire transmission line, the hybrid further configured to receive a remotely generated receive signal along the two-wire transmission line;  
a receiver configured to process the remotely generated receive signal; and

an echo canceller disposed in parallel between the transmitter and the receiver, the echo canceller configured to reduce both short-term echo components and long-tail echo components of the locally generated transmit signal,

*wherein the echo canceller includes a Finite Impulse Response (FIR) filter to facilitate reduction of the long-tail echo components of the locally generated transmit signal, and*

*wherein the echo canceller calculates coefficient values for less than N taps while emulating a N tap digital filter.*

*(Emphasis added)*

Applicants respectfully submit that the cited art fails to disclose, teach, or suggest a digital signal transceiver.... *wherein the echo canceller includes a Finite Impulse Response (FIR) filter to facilitate reduction of the long-tail echo components of the locally generated transmit signal...*" as recited in claim 17, as amended. More specifically, Applicants submit *Chen* discloses an "FIR filter system [that] includes one or more FIR taps for replicating a leading portion of an echo signal, whereas the non-adaptive IIR filter system provides for replication of the remaining or tail portion of the echo signal" (col. 3, line 10). As *Chen* appears to disclose that an IIR filter replicates the tail portion of the signal, Applicants submit that *Chen* fails to disclose, teach, or suggest all of the claimed elements of claim 17, as amended. Additionally, Applicants submit that *Koyama, Walker, and Bao* all, individually and in combination fail to overcome the deficiencies of *Chen*. More specifically, nowhere in these references is there any discussion of a "a radio receiver configured to receive *a program stream that includes an audio signal, an embedded document and at least one print driver the radio receiver further configured to receive commands from a user*" as recited in claim 1, as amended. For at least the reason that *Koyama, Walker, and Bao* fail to overcome the deficiencies of *Chen*, Applicants submit that the combination of references does not disclose, teach, or suggest all of the claimed elements. For at least this reason, claim 17, as amended, is allowable over the cited art.

The Office Action additionally rejects claim 17, stating “Koyama, Chen, and Walker in combination, fails to teach the echo canceller calculates coefficient values for less than N taps while emulating an N tap digital filter. However, Bao teaches such features...” (OA p. 4, para. 5). Applicants respectfully disagree with this analysis. As stated in column 1, line 58 of *Bao*, *Bao* “provide[s] a decision feedback equalizer (DFE) method and apparatus for digital receivers.” Applicants respectfully submit that a decision feedback equalizer is different than an “echo canceller,” as disclosed in claim 17, as amended. For at least this additional reason, Applicants respectfully submit that claim 17, as amended is allowable over the cited art.

II. Claims 18 – 20 are Patentable Over *Koyama* in view of *Chen* and *Walker*, Further in View of *Bao*

The Office Action indicates that claims 18 – 20 stand rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over U.S. Patent Number 5,388,092 (“*Koyama*”) in view of U.S. Patent Number 6,256,383 (“*Chen*”), and U.S. Patent Number 5,467,394 (“*Walker*”), and further in view of U.S. Patent Number 6,526,093 (“*Bao*”). Applicants respectfully traverse this rejection for at least the reason that *Koyama* in view of *Chen* and *Walker*, and further in view of *Bao* fails to disclose, teach, or suggest all of the elements of claim 17. More specifically, dependent claims 18 – 20 are believed to be allowable for at least the reason that these claims depend from allowable independent claim 17. *In re Fine, Minnesota Mining and Mfg. Co. v. Chemque, Inc.*, 303 F.3d 1294, 1299 (Fed. Cir. 2002).

## CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested.

Any other statements in the Office Action that are not explicitly addressed herein are not intended to be admitted. In addition, any and all findings of inherency are traversed as not having been shown to be necessarily present. Further, any and all findings of well-known art and official notice, or statements interpreted similarly, should not be considered well known for at least the specific and particular reason that the Office Action does not include specific factual findings predicated on sound technical and scientific reasoning to support such conclusions.

If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

**AUTHORIZATION TO DEBIT ACCOUNT**

It is not believed that extensions of time or fees for net addition of claims are required, beyond those which may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefor (including fees for net addition of claims) are hereby authorized to be charged to deposit account no. 20-0778.

Respectfully submitted,



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